

## CLAIMS

What is claimed is:

- 5        1.    A process for preparing the contacts on  
microswitches, said process reducing the resistance of  
said microswitches and maintaining the low resistance of  
said microswitches for many cycles, comprising
- 10            a.    obtaining microswitches and  
            b.    exposing said contacts from said microswitches  
to a fluid for preparing said microswitches.
- 15        2.    The process of claim 1 wherein said microswitch is a  
microrelay.
3.    The process of claim 1 wherein the materials used to  
make said contacts are selected from the group consisting  
of gold, ruthenium, rhodium and combinations thereof.
- 20        4.    The process of claim 3 wherein said material is  
ruthenium.
5.    The process of claim 1 wherein said microswitch is  
fabricated using the process outlined in Figure 3.
- 25        6.    The process of claim 1 wherein said fluid for  
preparing said microswitch comprises materials selected  
from the group consisting of acids, bases, peroxides and  
mixtures thereof.

7. The process of claim 6 wherein said materials are diluted with water.

5 8. The process of claim 6 wherein said materials are selected from the group consisting of sulfuric acid, hydrochloric acid, ammonium hydroxide, hydrogen peroxide, and mixtures thereof, said materials being optionally diluted with water.

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9. The process of claim 6 wherein said contacts are exposed to said materials for approximately 5 - 30 minutes.

15 10. The process of claim 9 wherein said exposure is for approximately 20 minutes.

11. The process of claim 9 wherein said preparation additionally includes a step of releasing said die from a mold by use of a process comprising (1) exposing said die and mold to concentrated, semiconductor grade hydrogen peroxide for approximately 5-20 minutes), (2) rinsing said die with deionized water for approximately 5-20 minutes, (3) exposing said die to a 25% solution of  
20 concentrated, semiconductor grade nitric acid, 75 %  
25 deionized water (vol/vol), at from room temperature to 60C for approximately 30-90 minutes, (4) rinsing said die with deionized water for approximately 5-20 minutes, (5) exposing said die and mold to concentrated, semiconductor

grade hydrogen peroxide for approximately 5-20 minutes,  
(6) rinsing said die with deionized water for  
approximately 5-20 minutes, and (7) drying said released  
microswitch with N<sub>2</sub> gas.

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12. The process of claim 1 wherein said fluid for  
preparing said microswitch comprises materials selected  
from the group consisting of oxygen, carbon  
tetrafluoride, sulfur hexafluoride or other fluorine-  
containing gases, argon and mixtures thereof.

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13. The process of claim 12 wherein said material is a  
gaseous plasma.

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14. The process of claim 13 wherein said plasma is  
Inductively Coupled Plasma.

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15. A process for preparing the contacts on  
microswitches having Ru contacts, comprising exposing  
said contacts from said microswitches to an oxygen  
plasma.